



H₂HUBB TEST REPORT

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Evaluation Introduction

This report provides a comprehensive evaluation of the H2Life V7.0 Inhalation Therapy Device, manufactured and sold by Hydrogen For Health. H₂HUBB classifies this unit as a household-grade, high-flow-rate, pure H₂ inhalation system. The device is equipped with hydrogen electrolytic cells that utilize PEM/SPE membrane technology, allowing it to produce pure hydrogen gas using only deionized or distilled water for operation. The system supports continuous hydrogen gas production, enabling users to extend inhalation sessions for up to 6 hours. As part of this evaluation, H₂HUBB thoroughly assessed the system's hydrogen gas output in mL/min to verify its performance and determine how that output may translate into a therapeutic inhaled H₂ concentration. We also reviewed the device's safety features and operational design to confirm that appropriate mechanisms are in place for safe and reliable use. This investigation determines whether the H2Life V7.0 meets H₂HUBB's product performance standards required for approval and recommendation.

To learn more about our H₂ performance standards for hydrogen water bottles, visit [H₂HUBB](https://www.hydrogen4health.com/products/brown-s-gas-inhaler-system-h2life-v7-0).

H₂ Products

- Company: Hydrogen For Health
- Product Name: H2Life V7.0 Pure Hydrogen Inhaler with Brown's Gas
- System Type: Pure H₂ Inhalation Device
 - Gas Composition: Pure H₂ (>99%) and pure O₂ (>99%) provided via separate ports
 - Electrolysis Technology: PEM/SPE series-stack electrolytic cell
 - Flow Classification (H₂HUBB): High-Flow-Rate Household-Grade System
- URL Link: <https://www.hydrogen4health.com/products/brown-s-gas-inhaler-system-h2life-v7-0>

Method and Procedure

- Distilled Water (test medium): 6.0 pH
- Reservoir Volume: 1.20 L (1200 mL)
- Water Temperature Prior To Testing: 66°F (18.8°C)
- Hydrogen Output (100% capacity): 800 mL/min H₂ | ~66.0 mg/min H₂ (SATP-corrected)
- Test Elevation: 277 meters (909 ft above sea level)
- Flow Testing Protocol: 1-hour continuous runtime | [Alicat H₂ Mass Flow Meter](#)
- Measurement Standardization: All gas volumes corrected to SATP (temperature and pressure adjusted)

Test Results

To evaluate hydrogen gas flow rate and estimated inhaled H₂ concentration, the H2Life V7.0 system was assembled according to the manufacturer's specifications using 1.2 L of distilled water. The device was tested under normal operating conditions during a continuous 1-hour session. A 20-minute warm-up period was completed prior to measurement to allow the system to stabilize.

The produced hydrogen gas was routed through a drying column, followed by an inline humidity and temperature sensor to monitor environmental conditions before entering an Alicat Mass Flow Meter for precise flow-rate measurement in mL/min. All measurements were standardized to SATP to ensure consistency across ambient testing conditions. Multiple trials were performed during the evaluation. The reported values represent averaged results following system stabilization, with minor corrections applied for line resistance and moisture-related effects.

The results below present the measured hydrogen output performance, corresponding oxygen production, and estimated inhaled H₂ and O₂ concentrations using the H₂HUBB inhalation concentration model. These estimates are based on an average adult minute ventilation range of 6.5–7.5 L/min using a standard nasal cannula model with a 20-second inhalation / 40-second exhalation breathing cycle.

H₂ Flow Rate Test Results at SATP:

- Device H₂ Flow Rate (mL/min | mg/min) avg: $\cong$ 840 mL/min H₂ ($\approx$ 69.26 mg/min)
- Device O₂ Flow Rate (mL/min) avg: $\cong$ 420 mL/min
- Total H₂/O₂ Flow Rate (mL/min) avg: $\cong$ 1260 mL/min
- Inhaled Gas (6.5-7.5 VE): H₂ $\cong$ 3.70%-4.30%

Claimed Manufacturer H₂ Output mL/min (mg/min) Confirmed: Yes — the measured hydrogen production confirmed the manufacturer's stated output claim and exceeded it by approximately 5%.

H₂HUBB Hydrogen Flow Rate Assessment:

H₂HUBB's hydrogen gas flow-rate testing confirms the manufacturer's performance claims for the H2Life V7.0 hydrogen inhalation device. At standard ambient temperature and pressure (SATP), the unit produced an average of 840 mL/min of hydrogen gas, aligning with and slightly exceeding the manufacturer's stated output by approximately 5%. Based on this measured flow rate, when used with a single-user nasal cannula, the device delivers an estimated inhaled hydrogen concentration of approximately 3.70–4.30% for an average adult with a resting minute ventilation of 6.5–7.5 L/min, according to H₂HUBB's inhalation concentration model. These estimated inhaled concentrations fall within ranges commonly used in human clinical research and do not exceed safety thresholds reported in the literature. It is important to clarify that while the final inhaled hydrogen concentration at the user interface remains within a safe therapeutic range, when hydrogen and oxygen are delivered together via the device's H₂ and O₂ ports and combined prior to the cannula, the H₂/O₂ gas composition within the cannula line is oxyhydrogen, consisting of approximately 66.67% H₂ and 33.33% O₂. This gas mixture remains flammable and potentially detonable under certain conditions. Therefore, proper safety precautions and strict adherence to the manufacturer's handling guidelines are essential when operating the device as an oxyhydrogen system.

Overall, the measured results exceed **H₂HUBB's minimum performance standards for hydrogen inhalation devices**. Based on H₂HUBB's inhaled concentration modeling, the device is expected to deliver therapeutic levels of molecular hydrogen for most average adults, with estimated inhaled hydrogen concentrations of approximately 3.0–4.0% under standard resting ventilation assumptions. These concentrations support therapeutic potential consistent with levels commonly used in clinical research.



Internal Performance

Manufacturer's Rated Electrical Values: (as stated on the power supply)

- **Type of device/electrolytic cell**
 - Pure H₂: PEM/SPE Membrane
- **Power Supply Rating:**
 - Rated Voltage: 7.50V
 - Rated Current: 40.0A
 - Rated Power: 300 Watts

Product Assessment

Functionality:

- **Master Power Switch:**
 - Controls overall system power (on/off).
 - Black button located on the front of the device.
- **On/Off Button**
 - Activates both the timing circuit and electrolysis process.
- **Session Timer Function:**
 - Allows users to select preset inhalation session durations, including 30 minutes, 1 hour, 1.5 hours, 2 hours, 3 hours, 4 hours, 5 hours, and 6 hours.
- **Digital Display & Output Control:**
- A front-mounted digital display shows key operating indicators, including power status, session time, water shortage reminder, TDS water quality alert, temperature, and maintenance notifications
- **Water Reservoir:**
 - Requires distilled water only.
 - Reservoir capacity: approximately 1.20 liters (1200 mL).
- **Water Collection/Humidifier**
 - Collect water moisture from the gas production and improves gas purity.
- **H₂ Port (1x):**
 - Delivers hydrogen gas for single-user inhalation
- **O₂ Port (1x):**
 - Vents oxygen gas produced during electrolysis or may be used as part of oxyhydrogen inhalation when combined with the H₂ output.
- **Drain port:**
 - A front-mounted drain port allows users to remove distilled water from the system.



Product Safety

Safety Components:

The H2Life V7.0 system incorporates multiple safety mechanisms designed to support operational safety and thermal stability:

- **Low-Water Protection:**
 - Automatically protects the electrolysis cells from overheating by preventing operation when reservoir water levels are insufficient.
- **Large Distilled Water Reservoir (1.20 L):**
 - Provides thermal buffering capacity to help reduce excessive heat buildup during extended operation.
- **Internal Cooling Fans:**
 - Assist with heat dissipation and reduce the likelihood of hydrogen accumulation within the enclosure in the event of a minor leak.
- **Internal gas separator**
 - The apparatus helps to improve H₂ gas purity.
- **High-temp cell sensor**
 - Prevents the cell from overheating
- **Water Collection Cup / Humidifier:**
 - Helps collect excess moisture from the gas stream and may provide a partial flame-arresting effect by creating a water barrier within the gas pathway.
- **Heat Ventilation:**
 - Allow passive heat escape to help prevent excessive internal temperature accumulation.

Safety Note:

Oxyhydrogen inhalation systems, such as the H2Life V7.0 when operated in H₂/O₂ mode, produce a pre-mixed gas containing hydrogen and oxygen. This gas mixture is inherently flammable and potentially detonable under certain conditions. Because the gases may be mixed prior to delivery, an ignition event at the nasal cannula tip, such as exposure to an open flame, spark, or high-heat source, could theoretically allow combustion to propagate backward through the gas pathway.

The incorporated humidifier/water collection cup and pressure-relief valve may help reduce flashback risk by adding a water barrier and pressure-release pathway within the system. However, these safeguards reduce risk; they do not eliminate the need for proper user precautions.

For this reason, ignition sources should always be avoided near the cannula interface during operation, whether using pure H₂ or oxyhydrogen. When pure hydrogen gas is used independently, combustion risk is primarily at the cannula outlet where hydrogen mixes with ambient oxygen, rather than inside the H₂ delivery line itself. However, users should still avoid smoking, open flames, sparks, or high-heat sources near the cannula tip while the system is running.

Proper adherence to the manufacturer's safety guidelines is essential when operating the device in either pure H₂ or oxyhydrogen inhalation mode.



Overall Opinion

The H2Life V7.0 Hydrogen Inhalation Device has been independently evaluated and verified through H₂HUBB testing as a well-engineered, household-grade, mid-to-high-flow pure H₂ inhalation system. The manufacturer specifies a hydrogen gas output of approximately 800 mL/min under standard operating conditions. H₂HUBB's independent testing confirmed that the device achieves output levels consistent with its electrochemical design and manufacturer specifications, with measured results showing approximately 5% higher H₂ production than the manufacturer's stated claim.

The approximately 5% higher hydrogen production observed during testing was likely related to increased water and cell temperature after the device had been operating for 20 minutes prior to final measurement. This is a normal operating pattern, as electrolytic cell performance and gas output can increase as the system warms and stabilizes. Using H₂HUBB's Alicat-based hydrogen flow-rate evaluation setup, we measured an average hydrogen gas output of 840 mL/min of H₂, equivalent to approximately 69.26 mg/min. The corresponding oxygen output was approximately 420 mL/min, resulting in a total oxyhydrogen gas production of 1,260 mL/min when both H₂ and O₂ are combined.

Based on H₂HUBB's inhaled H₂ concentration model, using an average adult resting minute ventilation of 6.5–7.5 L/min and a standard nasal cannula model with a 20-second inhalation / 40-second exhalation breathing cycle, this gas production may provide an estimated inhaled H₂ concentration of approximately 3.70–4.30%. When the oxygen output is also supplied with the hydrogen gas as oxyhydrogen, the estimated inspired oxygen concentration would increase to approximately 21.64–21.75%. This represents an increase of approximately 0.7–0.8 percentage points compared to normal atmospheric oxygen levels at sea level, which are approximately 20.95%.

Therefore, when operated in oxyhydrogen mode through the nasal cannula, the device may provide up to approximately 4.30% inhaled H₂ and 21.75% inspired O₂ under the modeled breathing assumptions. Based on H₂HUBB's analysis, these inhaled H₂ concentrations fall within a therapeutic range commonly used in human hydrogen inhalation studies.

Hydrogen gas output flow rate is a critical performance parameter for hydrogen inhalation devices. At H₂HUBB, the minimum performance standard for hydrogen inhalation systems—whether pure hydrogen, oxyhydrogen, or hydrogen blended with air—is 120 mL/min of H₂ output. Using H₂HUBB's inhaled H₂ concentration model, this output level corresponds to approximately 0.7–1.0% inhaled hydrogen for an average adult at typical resting ventilation rates of approximately 4–6 L/min when using a standard nasal cannula. Human clinical research on molecular hydrogen inhalation commonly utilizes inhaled H₂ concentrations ranging from approximately 0.5% to 4% or higher at resting breathing rates, with these levels demonstrating therapeutic potential across various conditions. Based on this body of evidence, H₂HUBB establishes 120 mL/min of hydrogen output as the baseline requirement for inhalation systems to ensure meaningful therapeutic capability. **The H2Life V7.0 H₂ inhalation device exceeds this minimum standard, delivering molecular hydrogen output well within clinically studied and therapeutically relevant ranges.**

H₂HUBB would also like to highlight the design perspective of the H2Life V7.0 system. The device features a simple, user-friendly design with straightforward operation. This is an important advantage because many new hydrogen inhalation users are unfamiliar with hydrogen therapy and the technology used to perform it. In our view, the device itself should not become a barrier to experiencing hydrogen inhalation therapy.

The H2Life V7.0 setup and operation are intentionally simple: press the master power button on the front of the unit, select the desired session duration, and begin inhalation. This basic three-step operation makes the device easy to understand and practical for regular use.

Another important distinction is that the H2Life V7.0 is engineered and manufactured in the United States by Hydrogen For Health. This is notable because many hydrogen inhalation systems sold in the U.S. are sourced from overseas manufacturers and then resold under different brands. In some cases, this may limit long-term consumer support, especially if the original manufacturer discontinues production or replacement parts become difficult to obtain. Because the H2Life V7.0 is manufactured and sold directly by Hydrogen For Health, consumers have access to the source of the device, which may improve product support, service continuity, and long-term confidence in the system. Overall, the device's simple design, ease of operation, and U.S.-based manufacturing make it an attractive option for consumers seeking a reliable household hydrogen inhalation system.

The manufacturer's hydrogen output specifications for the H2Life V7.0 were validated through independent H₂HUBB testing. No mechanical or electrical safety deficiencies were identified during evaluation. The system incorporates several important safeguards and operational features, including separate H₂ and O₂ output ports, water shortage alerts, TDS water quality monitoring, temperature monitoring, maintenance notifications, a pressure-relief mechanism, and a water collection cup/humidifier that may help reduce flashback risk within the gas pathway.

Overall, the H2Life V7.0 exceeded H₂HUBB's minimum hydrogen flow performance standards. When operated and maintained responsibly within the guidelines outlined in this report, the device performs as a reliable high-flow, household-grade hydrogen inhalation system suitable for in-home therapeutic use. Based on our findings, H₂HUBB is confident in recommending this product to the public, provided users follow informed safety practices and adhere to the manufacturer's operating instructions.

H₂ Hubb LLC disclaimer: All tests conducted and test results produced by H₂ Hubb LLC have been done according to industry-accepted practices and standards. Nevertheless, these results may not necessarily reflect test results performed by manufacturers, suppliers or third-party labs. Our test results are independent of all other parties, and testing by other parties may produce different results. We understand that many variables are involved in testing, some of which are extremely difficult to control. These reports are not meant or intended for any other purpose but to uphold H₂ Hubb LLC's business practices and to validate the reasons for our recommendations.





Approved By: Tywon Hubbard

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